



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/724,514

11/26/2003

Sim Dong-Hi

2060-3-92A

1835

35884 7590 06/11/2009
LEE, HONG, DEGERMAN, KANG & WAIMEY
660 S. FIGUEROA STREET
Suite 2300
LOS ANGELES, CA 90017

EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

NOTIFICATION DATE

DELIVERY MODE

06/11/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@hlaw.com
ip.hlaw@gmail.com
ip.hlaw@live.com

Office Action Summary	Application No. 10/724,514	Applicant(s) DONG-HI ET AL.	
	Examiner Qutbuddin Ghulamali	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/26/2009 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 38-42 are rejected under 35 U.S.C. 103 (a) as being unpatentable Kim et al (US Pub. 2002/0004924) in view of Miyoshi et al (US Pub. 2003/0014709) and further in view of Bantz et al USP 5,507,035).

Regarding claim 38, Kim discloses an apparatus for transmitting data using a plurality of antennas in a mobile communication system, comprising:

Art Unit: 2611

a data block segmentation unit (422) segmenting a first data block into at least two second data blocks (segments a number of data blocks that could include a first block and other blocks) (page 5, section 0065);

a Cyclic Redundancy Check (CRC) attachment unit (a CRC inserter 421) attaching a CRC to each of the at least two second data blocks (page 5, section 0065, 0066, 0067).

Kim however, does not disclose allocating blocks and dummy bits to a plurality of antennas based on received channel status information. However, Miyoshi discloses allocating (assign) blocks and dummy bits to transmission apparatus via antennas (Miyoshi discloses providing bit segments for a packet (blocks), assigning them allows the systematic bits and parity bits to be placed in different symbols i.e., all symbols are constructed of only systematic bits or a combination of systematic bits and dummy bits or only parity bits *or a combination of parity bits and dummy bits*) (page 9, section 0108; page 8, section, 0099, 0103, 0105). A person of ordinary skill in the art would be motivated to use the teachings of Miyoshi in the art of Kim to assign data block and dummy bits for transmission via an or antennas because it can minimize repeated retransmission, mitigate errors and improve throughput of transmission of data. Kim and Miyoshi combined does not explicitly disclose using data blocks using antenna having good channel status and dummy bit using antenna having bad channel status. However, Bantz discloses use of multiple antennas wherein a preferred antenna (good antenna) selection strategy can be used based on the received channel data quality measured at each antenna/receiver branch and information used in the selection of the good or preferred antenna (col. 2, lines 29-45; col. 3, lines 10-22), Bantz discloses use

Art Unit: 2611

of multiple antennas and using antenna having good quality for data transmission, a person of ordinary skill in the art would recognize that another antenna of less quality can be used for transmission of dummy bits as dummy bits or null bits or filler bits have no significance with data transmission bits wherein each antenna can transmit assigned data using good antenna and dummy bits using antenna of less quality most conveniently in the system of Kim and Miyoshi because it can result in improved transmission of actual data. As per “a feedback signal reception unit receiving channel status information for each of the plurality of antennas from a receiving side”; the generally used and well known MIMO transmission techniques based on OFDM that work similar to V-BLAST wherein data stream is partitioned into multiple independent blocks wherein a full or maximum channel state information of every OFDM subchannel is available to transmitter via the feedback channel from receiver to transmitter for optimizing selection of transmit antennas would be readily available to a person of skill in the art to make use of.

Regarding claims 39, 43, wherein dummy are predefined between apparatus and receiver is implicitly implied.

Regarding claims 40, 44, Kim discloses CRC is differently attached to each of the blocks (fig. 4).

Regarding claims 41, 45, Kim, discloses channel status information is a positive acknowledgement (ACK) or a negative acknowledgement (NACK) for each of the at least two second data blocks or the dummy bits which has been transmitted via each of the plurality of antennas (page 2, sections 0018, 0019, 0020, 0024).

As per claim 42, the steps claimed as method is nothing more than restating the function of the specific components of the apparatus as claimed above and therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the claim in an alternate way so as to realize steps of the method as claimed, considering the aforementioned rejection for the apparatus claim 38.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.

June 4, 2009.

/Chieh M Fan/
Supervisory Patent Examiner, Art Unit 2611